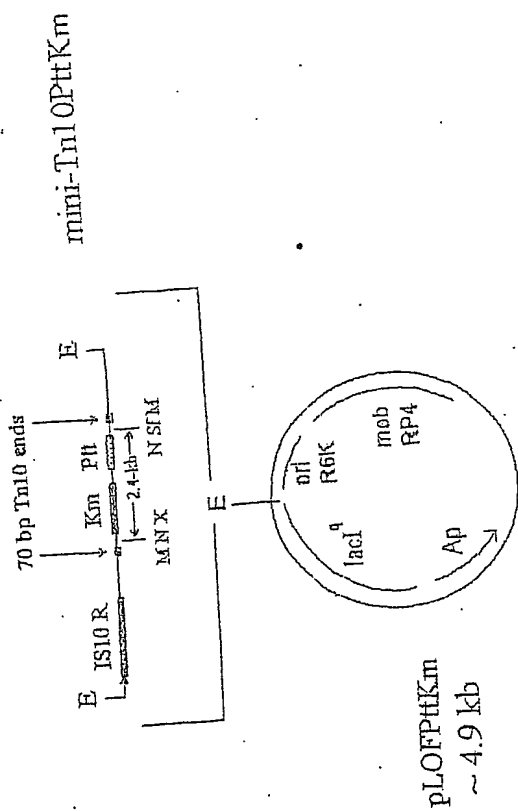


[illegible]

FIGURE 1



TRANSPOSON

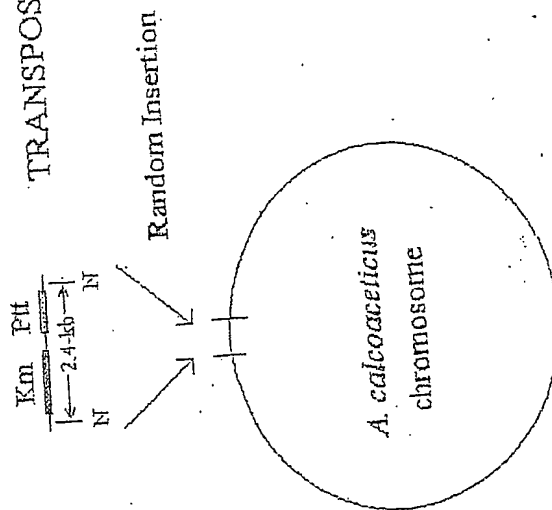


FIGURE 2

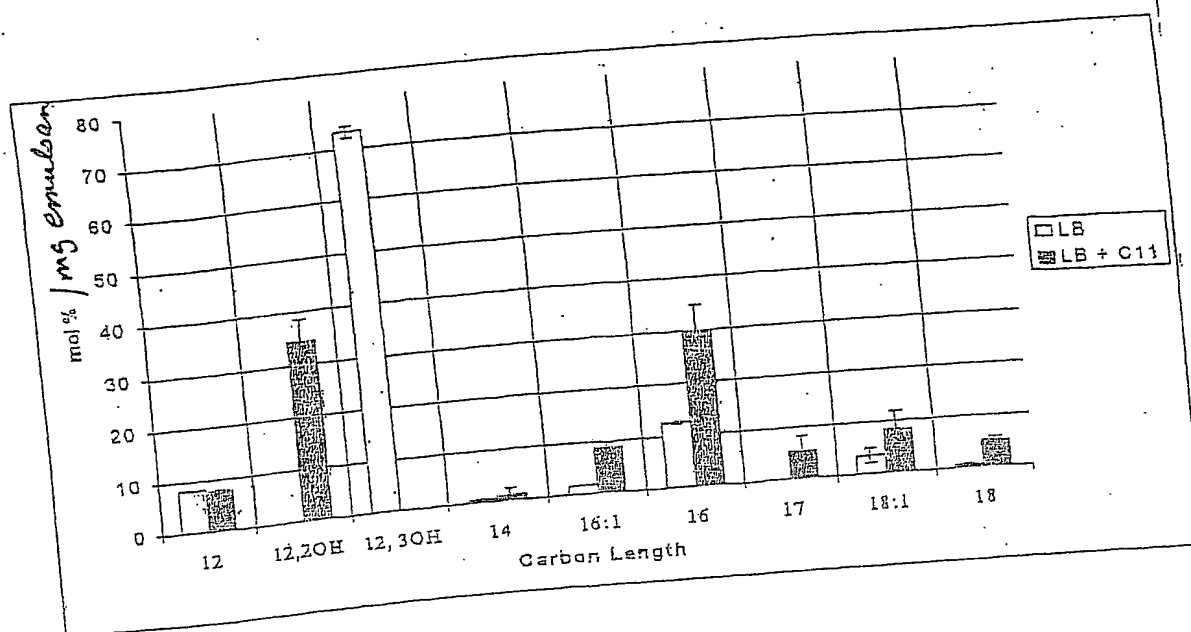


FIGURE 3A

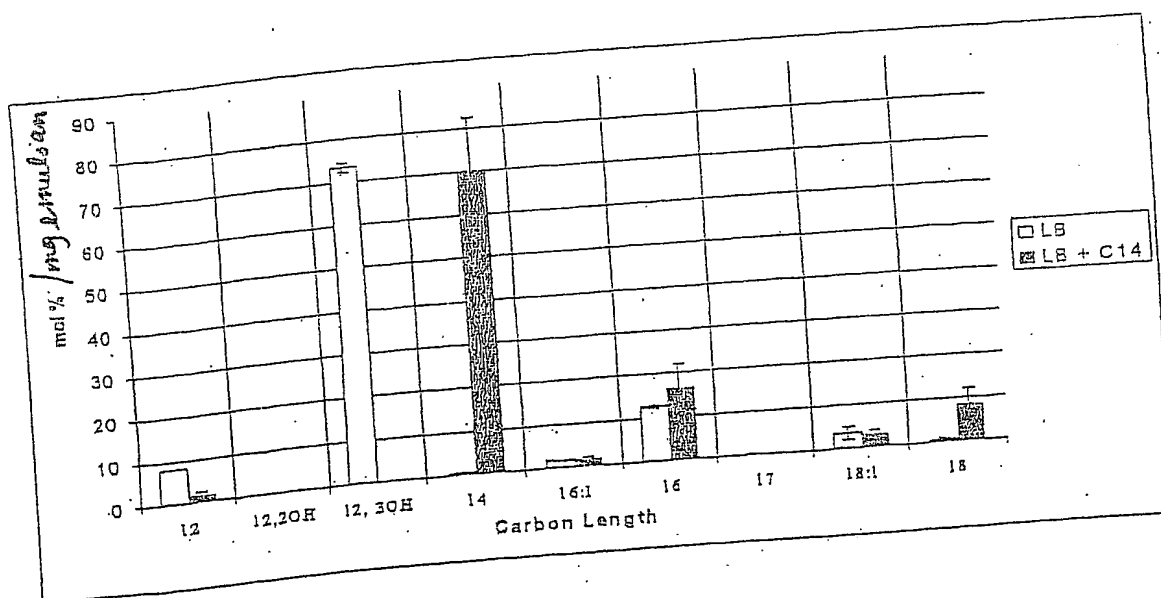


FIGURE 3B

Carbon Source	Emulsification Activity in Klett Units		
	Hexadecane (C16)	Tetradecane (C14)	Dodecane (C12)
LB	15 ± 2	12 ± 0	18 ± 3
LB + C11	11 ± 1	8 ± 0	5 ± 0
LB + C14	343 ± 11	208 ± 25	163 ± 95
LB + C16	100 ± 20	5 ± 1	0
LB + C18	145 ± 40	275 ± 30	100 ± 31

FIGURE 4A

Carbon Source	Emulsification Activity in Klett Units		
	Hexadecane (C16)	Tetradecane (C14)	Dodecane (C12)
LB	5 ± 0	0 ± 0	5 ± 0
LB + C11	20 ± 0	5 ± 0	0 ± 0
LB + C14	0	0	0
LB + C16	75 ± 7	5 ± 1	0
LB + C18	235 ± 25	140 ± 20	52 ± 18

FIGURE 4B

09515020-030300

Treatment	Crude (pg TNF)	Deproteinized (pg TNF)
Medium	~2550	~3150
100 ng/ml LPS	~2500	~3000
2 ug/ml EM1	~2400	~3150
200 ng/ml EM1	~2350	~3550
20 ng/ml EM1	~1250	~2350

Condition	pg TNF Released per 80,000 Cells	Significance
Medium	~120	
200 ng/ml EM1	~1450	B
20 ng/ml EM1	~1100	
2 ng/ml EM1	~280	

FIGURE 5B

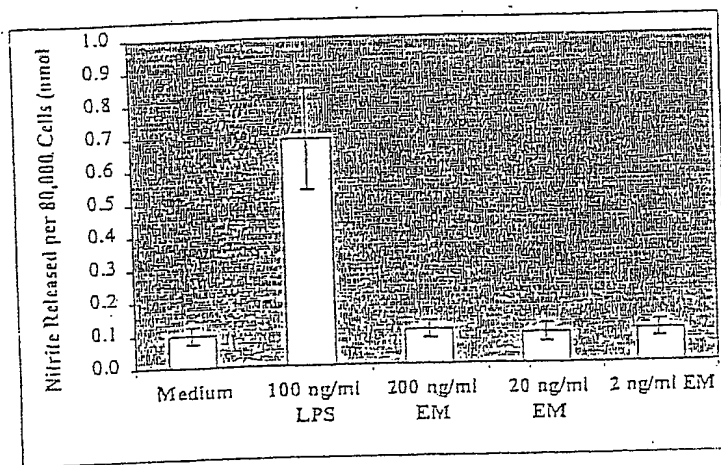


FIGURE 6

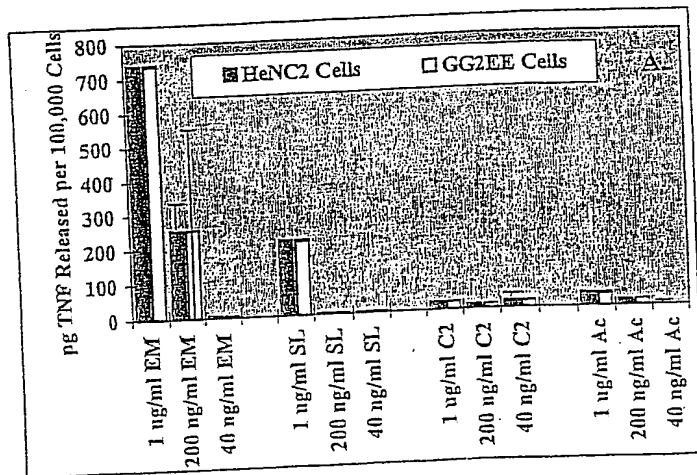


FIGURE 7A

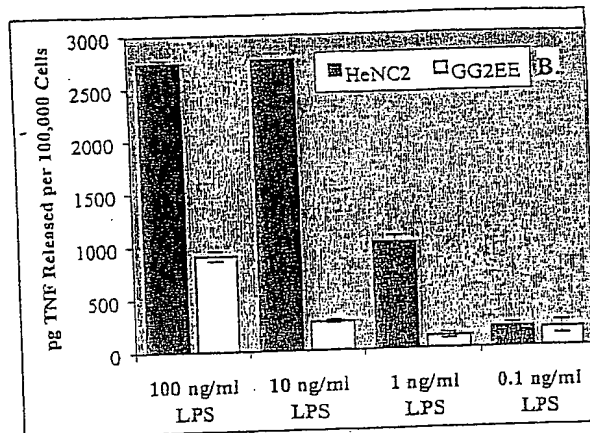


FIGURE 7B

ELISA code	EM1	EM4	EM5	EM6	EM7	EM8	EM9	EM10
A. <i>calcoaticus</i> strain and culture conditions	RAG-1 on Ethanol	M2 (13D) on C14 saturated	M1 (52D) on C14 saturated	RAG-1 on C15 saturated	RAG-1 on C16 unsaturated	RAG-1 on C17 saturated	RAG-1 on C18 saturated	RAG-1 on C20 saturated
	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)	Fatty acid content (nmol/mg Emulsan)
C12:0	22.65	0.10	2.53	5.91	14.57	9.59	8.26	12.18
C12 (2OH)	58.03		44.68	22.53	19.17	38.99	58.88	38.69
C12 (3OH)	118.41		8.69	46.99	86.75	17.10	99.05	56.13
C14:0		6.15	4.75	1.09		0.89	1.07	1.18
C15:0				5.61		2.81	2.62	
C16:1	8.92	0.08	8.21		17.64	1.59		2.38
C16:0	46.25	1.23	11.35	2.14		4.42	2.25	6.60
C17:0						37.66		
C18:1	11.17	0.25	0.05			0.85		1.66
C18:0	4.62	0.66	0.27	9.01		2.35	3.15	
total	270.06	8.46	80.53	106.31	138.13	117.43	179.06	120.19

FIGURE 8

Emulsan Analog-Induced TNF Release

Emulsan Analog	20 ng/ml	2.0 ng/ml	0.2 ng/ml	0.02 ng/ml
EM1	~20	~15	~10	~1
EM2	~20	~15	~10	~1
EM3	~20	~15	~10	~1
EM4	~20	~15	~10	~1
EM5	~24	~20	~15	~1
EM6	~33	~20	~15	~1
EM7	~24	~20	~15	~1
EM8	~28	~20	~15	~1
EM9	~29	~20	~15	~1
EM10	~33	~20	~15	~1

FIGURE 9A

FA Content/TNF Release Correlation

ng TNF Released per 80,000 RAW Cells

FA Content of Emulsion (nmol FA/mg EM)

$y = 0.0185x + 0.4013$
 $R^2 = 0.727$

FA Content of Emulsion (nmol FA/mg EM)	ng TNF Released per 80,000 RAW Cells
10	0.1
20	0.2
30	0.5
40	0.8
50	1.2
60	1.5
70	1.8
80	2.2
90	2.5
100	2.8
110	3.2
120	3.5
130	3.8
140	4.2
150	4.5
160	4.8
170	5.2
180	5.5
190	5.8
200	6.2
210	6.5
220	6.8
230	7.2
240	7.5
250	7.8
260	8.2
270	8.5
280	8.8
290	9.2
300	9.5

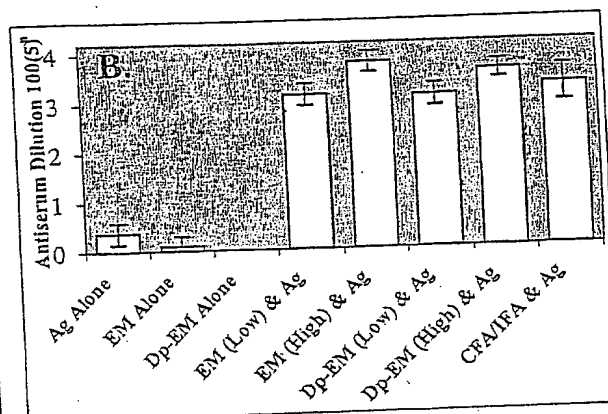
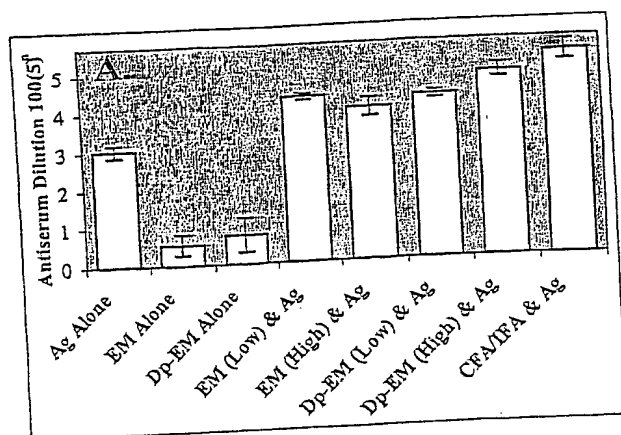
FIGURE 9B

The graph displays the antiserum dilution over 45 days post-boost for eight different vaccine formulations. The y-axis represents the antiserum dilution at 100(5), ranging from -1 to 4. The x-axis represents the number of days post-boost, ranging from 0 to 45. The formulations and their corresponding symbols are: Ag Alone (asterisk), EM Alone (diamond), Dp-EM Alone (open diamond), EM (Low) & Ag (open triangle), EM (High) & Ag (filled circle), Dp-EM (Low) & Ag (open triangle with a dot), Dp-EM (High) & Ag (open circle), and CFA/IFA & Ag (open square). The CFA/IFA & Ag formulation shows the highest and most stable antiserum levels, while the EM (High) & Ag formulation shows the lowest levels after the initial boost.

Days Post Boost	Ag Alone	EM Alone	Dp-EM Alone	EM (Low) & Ag	EM (High) & Ag	Dp-EM (Low) & Ag	Dp-EM (High) & Ag	CFA/IFA & Ag
0	0	0	0	0	0	0	0	0
5	1.5	0.5	1.5	1.5	0.5	1.5	1.5	1.5
10	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
15	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
20	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
25	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
30	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
35	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
40	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5
45	1.5	0.5	1.5	1.5	0.5	1.5	1.5	3.5

FIGURE 10

2000



005050" 02081650

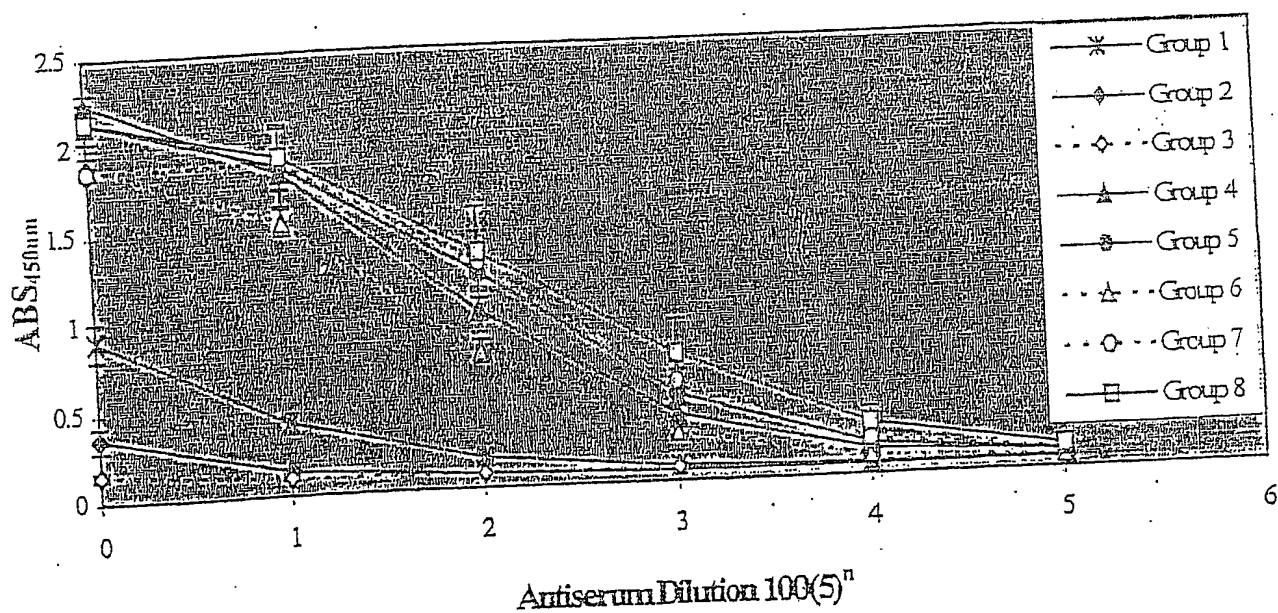


FIGURE 12